

## Abstract

A surface treated steel sheet for a battery case, which has a diffusion layer of a nickel-phosphorus alloy or a nickel-cobalt-phosphorus alloy formed on the outermost layer of the inside surface of a plated steel sheet for a battery case; a battery case which is produced through forming the surface-treated steel sheet having a diffusion layer of a nickel-phosphorus alloy or a nickel-cobalt-phosphorus alloy by the deep drawing method, the DI forming or the DTR forming; and a battery using the battery case. The battery case can be used for producing a battery excellent in battery characteristics.